

## EXECUTIVE SUMMARY

The Metropolitan Transportation Commission (MTC) and the Bay Area Air Quality Management District (BAAQMD, or Air District) partnered with 26 Bay Area transit operators to offer *free rides, all-day*, on the first six, non-holiday Spare the Air weekdays. The 2006 Spare the Air/Free Transit Campaign is an episodic measure that is implemented only at times when ground-level ozone pollution (“smog”) levels are expected to be highest. Ground-level ozone is created on stagnant summer days when reactive organic compounds (ROG) react with nitrogen oxides (NOx) in the presence of heat and sunlight. The summer ozone season starts on June 1, 2006 and ends on October 13, 2006.



The partner agencies established four clear goals for the 2006 Campaign:

1. Encourage Bay Area residents to drive less and use public transit more
2. Build transit ridership regionwide
3. Increase public awareness about sparing the air
4. Prevent national 8-hour ozone exceedances

The Air District has issued a total of ten Spare the Air advisories during the 2006 summer ozone season. The free transit rides were offered on participating systems on the first six Spare the Air weekdays: June 22, 23, and 26 and July 17, 20, and 21, 2006. The six Spare the Air/Free Transit Days produced the following key results:

## TRANSIT RIDERSHIP

- Transit ridership levels rose by approximately 15 percent regionwide over the six Spare the Air days, adding a total of 1.35 million riders. This equates to an average of an additional 225,000 riders per Spare the Air day.
- Muni saw the highest absolute ridership gain of close to 500,000 additional riders (up 12 percent) on its systems over six Spare the Air days compared to the baseline, followed by AC Transit with 360,000 additional riders (up 28 percent), BART with 152,000 additional riders (up 8 percent), and VTA bus with 81,000 additional riders (up 15 percent).
- Other large bus operators saw substantial absolute ridership gains over the six Spare the Air days compared to the baseline, for instance, Golden Gate Transit carried 29,000 additional riders (up 20 percent), SamTrans with 24,000 additional riders (up 10 percent), and County Connection with 16,500 additional riders (up 21 percent). Even smaller suburban bus operators experienced substantial ridership increases like Tri Delta with 13,000 additional riders (up 26 percent) and WestCat with 10,000 additional riders (up 48 percent).

- Ridership levels also rose on light-rail and passenger rail services over the six Spare the Air days compared to the baseline, with VTA light-rail carrying an additional 46,300 riders (up 25 percent), Caltrain drawing 4,000 additional riders (up 25 percent) and ACE carrying 1,800 additional riders from the Central Valley into the Bay Area (up 11 percent).
- The most dramatic percent increase in ridership levels occurred on the ferry systems. Golden Gate Sausalito Ferry had the highest percent ridership gain of 326 percent over six Spare the Air Days, going from an average of 1,800 ferry riders per day to 7,600 ferry riders per day. Moreover, the Golden Gate Larkspur Ferry fared well with its 93 percent ridership increase, going from an average of 5,200 ferry riders per day to nearly double with 10,000 additional ferry riders per day. Furthermore, Alameda-Oakland and Alameda Harbor Bay Ferries also experienced substantial percent ridership gains of 226 percent, going from an average of 1,800 ferry riders per day to 5,900 ferry riders per day.

### **TRANSIT TRAVEL BEHAVIOR**

Godbe Research conducted onboard passenger surveys for MTC to assess the impact of offering free transit during Spare the Air weekdays. In total, 6,744 passengers were interviewed for this study. Based on the analysis of the survey data, the key findings are as follows:

#### *Trip Origin and Destination*

- The majority of respondents started their trip either at home (56 percent) or at work (27 percent). Similarly, the same two responses was the destination for most respondents (work equals 43 percent, home equals 28 percent).

#### *Mode of Arrival to Transit*

- Forty-three percent of the respondents reported that walking was their mode of arrival to the bus, train, or ferry stop/station, while 21 percent drove, 19 percent transferred from other transit, nine percent were dropped off, and three percent carpoled.

#### *Typical Mode of Transportation*

- Over half of the respondents indicated that they typically use public transit to make the trip they were on.
- Twenty-three percent indicated that they typically use a car and three percent reported carpooling as their typical mode of transportation. In total, 26 percent typically use a car for their trip.

#### *Spare the Air Awareness*

- Over two-thirds of the respondents, 68 percent, were aware that it was a Spare the Air Day.
- Twenty-three percent reported that they rode public transit specifically because it was a Spare the Air/Free Transit Day, while the remaining 78 percent normally use transit.

## **DRIVING BEHAVIOR**

True North Research was commissioned by the Air District to conduct telephone surveys to gauge the effectiveness of the Spare the Air education and outreach program and understand the public's attitudes and behavior in response to the 2006 Spare the Air/Free Transit Campaign. In total, 1,250 randomly selected drivers within the Air District's boundaries participated in the telephone survey on the evening of one of the six Spare the Air days. The key findings are outlined below.

- The average number of trips taken on a Spare the Air day in 2006 was 2.35.
- Individuals who reduced at least one trip for air quality reasons reported taking an average of 2.18 trips.
- Nearly ten percent (9.84 percent) of Bay Area drivers reduced at least one trip in response to the 2006 summer season Spare the Air campaign.
- The most common method of reducing one's driving was linking trips, followed by eliminating a trip.
- Shopping trips and trips to and from work were the most common types of trip reduced for air quality reasons in 2006.

## **RECALL AND AWARENESS OF SPARE THE AIR MESSAGING**

Based on the True North telephone survey, the following are the key findings related to recall and awareness of the Spare the Air messaging:

- Seventy-six percent (76 percent) of respondents indicated that they recalled being exposed to news stories or public service announcements related to air quality and/or Spare the Air in the two days prior to the interview.
- The most commonly mentioned source of information about Spare the Air included television, radio and newspaper.
- Nearly two-thirds (66 percent) of all respondents were aware that the day of the interview was a Spare the Air day.
- Nearly two-thirds of respondents were also aware that commuters were able to ride public transit for free on the day of the interview (STA day).
- One percent of all drivers in the Bay Area chose to ride transit on a Spare the Air day because it was free – not because they normally ride transit.
- Nearly half (49 percent) of drivers indicated that they would be more likely to ride transit on Spare the Air if it were always free on these days.

## **EMISSION REDUCTIONS**

MTC and Air District estimate that the emission benefits of the 2006 Campaign are as follows:

- A total of 4.23 tons of nitrogen oxides (NO<sub>x</sub>), 3.86 tons of reactive organic compounds (ROG), and 0.27 tons of particulate matter (PM-10) emissions was reduced for the six Spare the Air days. This equates to 0.71 tons per day of NO<sub>x</sub>, 0.64 tons per day of ROG, and 0.05 tons per day of PM-10.
- The cost per day is \$2.2 million per day, yielding a cost-effectiveness of \$1.4 million per ton of emissions reduced.

## **OZONE EXCEEDANCES**

- The national 8-hour ozone standard was not exceeded on two of the six Spare the Air weekdays (June 26 and July 20).
- However, exceedances of the national 8-hour standard were recorded on the other four Spare the Air weekdays at the following monitoring station locations: Bethel Island, Concord, Fairfield, Livermore, Pittsburg, Gilroy, Los Gatos, and San Martin.

## **ACCESS TO SPARE THE AIR/FREE TRANSIT INFORMATION**

- Hits on 511.org's special Spare the Air/Free Transit web page totaled over 79,300, with most of the hits occurring on the day before, during and day after a Spare the Air episode.
- Sign ups for AirAlerts increased by 12,000 new registrants since the June 1 start of the ozone season, bringing the total registration list to nearly 40,000 residents.
- Radio, TV and print media coverage about the 2006 Campaign was extensive. There were over 830 press stories specifically mentioning the 2006 Campaign, resulting in an advertising value worth over \$1.2 million, meaning that this is the amount that we would have paid if we were to conduct the comparable television, radio or print advertising.

## **PROJECT IMPLEMENTATION**

### **Transit Operations**

- Operator's lost farebox revenue completely reimbursed by MTC and the Air District.
- Transit operators stood ready to implement the free transit promotion, and the implementation was smooth for all operators except for operators who experienced the crowding and security issues noted below.
- Transit operators were able to expose their transit services to a new customer base, attracting new riders to use the system on a regular basis.
- Transit operators' execution of the free transit offer allowed them to identify the true capacity of their systems.

- The Golden Gate Transit and Alameda/Oakland Ferry operators experienced some unique challenges, testing their ability to control crowds, ensure transit security, maintain on-time performance levels, and respond to frustrated regular ferry riders. The on-time performance was compromised due to the record-high number of ferry riders, resulting in serious service delays and the need to bring into service additional ferry boats on the last two Spare the Air weekdays.
- Transit security and passenger safety were key priorities for all the transit operators given the increased number of passengers on any single bus, train car, or ferry boat, but were particularly challenging for BART during the three July Spare the Air days. Specifically, for July 21, BART Police reported that calls for service doubled what they would normally expect. Most of these calls occurred during the afternoon and evening hours. Also, BART customer service reported over a dozen customer complaints concerning the July Spare the Air days, with most of complaints being negative and focused on security concerns.
- Caltrain also reported that many older adults took refuge on the trains to escape from the heat, and the high number of first-time and/or non-regular riders unfamiliar with the Caltrain train system resulted in crowding, service delays and an overall unpleasant transit atmosphere and experience for its riders.

### **Customer Complaints**

- Some regular ferry riders complained about the overcrowding and service delays on the ferry boats due to increased number of new riders during the mid-day and evening peak periods who took advantage of the free ride and viewed it as an e-ticket ride. Some regular ferry riders felt that ferry rides should not be offered free all-day, or said they rather drive on Spare the Air days than deal with the overcrowding.
- Some regular BART riders expressed concerns about security on BART, particularly those who rode on cars where groups of unruly teenagers had fights with each other or intimidated and harassed other BART riders.
- A handful of monthly pass holders using Caltrain, ACE, AC Transit, and VINE complained that they would not be reimbursed for the unused day of their monthly pass because they too felt that they should get the ride for free. In response, VINE gave out “oops” passes to their few unhappy monthly pass holders, and the Air District gave “thank you” coupons to transit operators to distribute to their monthly passholders. These include a two-for-one admission coupon to Disney on Ice; a two-for-one admission coupon to the Ringling Bros and Barnum & Bailey Circus; and a voucher for 50 percent off a new subscription to the San Francisco Chronicle.
- Some Solano, Napa, and West Contra Costa transit riders complained that Vallejo Transit/BayLink Ferry did not participate in the 2006 campaign.

- A few transit riders complained that their bus drivers and train operators were not customer-friendly, and conversely, bus drivers and train operators complained that passengers were bombarding them with too many questions.

### **Customer Positive Feedback**

- Some riders reported that they felt compelled to get out of their car because of the Spare the Air messaging.
- Some riders felt that the Spare the Air/free transit offer saved riders money and saved the environment.
- Some riders felt that it was very good to get people to drive less and ride more even though it is not free for monthly pass holders and the buses, trains, and ferries are standing room only because a lot of people are taking advantage of the free offer.
- Some riders reported that the money saved from the transit fare was redirected to spontaneous shopping and dining activities, which gave the regional economy a nice boost.

### **NEXT YEAR'S PROGRAM**

Ideas put forth by transit operators and some members of the public:

- All transit operators except those noted below suggested the continuation of the free, all-day transit offer. Specifically, VTA and other bus operators felt strongly that the free, all-day transit offer was very effective and was by far easier to implement than last year's morning commute offer.
- Golden Gate Transit suggested "2 for 1" offer wherein passengers would buy one ferry ticket and board for free on the Spare the Air day, but save the purchased ticket for use on another day.
- BART suggested going back to just the free morning commute offer as was done in 2004 and 2005. For BART, the free morning commute offer simply did not produce the safety and security issues that resulted from the free all-day offer.
- Caltrain suggested going back to just the free morning commute offer, but would be amendable to a morning/evening commute offer. Caltrain felt that the all-day offer was not reflective of a typical commute on Caltrain, due in large part to disruptive first-time or non-regular riders, which, in effect, may dissuade riders (new and regular) from taking transit altogether. For Caltrain, commute hours offer the optimal transit experience because the problem crowds are not likely to be out and about. A positive transit experience may compel riders to continue to take transit in the future.
- Other suggestions include offering free morning commutes only on ferries, Caltrain and BART but free, all-day on all buses, and soliciting assistance from private sponsors.